

rejected under 35 U.S.C. § 103 over Bar-Joseph et al in view of Marotta. Claim 11 has been rejected under 35 U.S.C. § 103 over Bar-Joseph et al in view of Marotta further in view of VRBA.

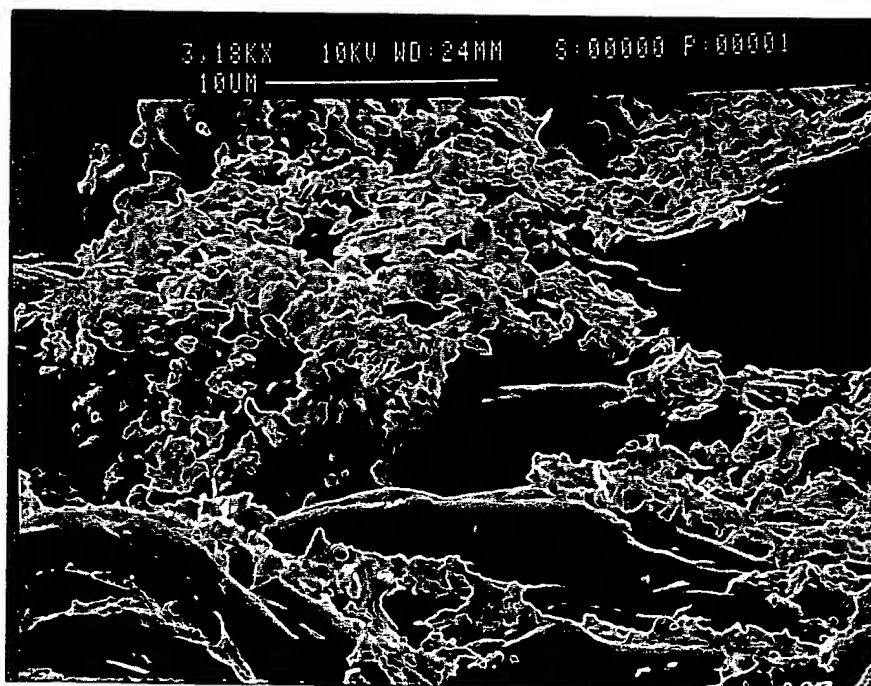
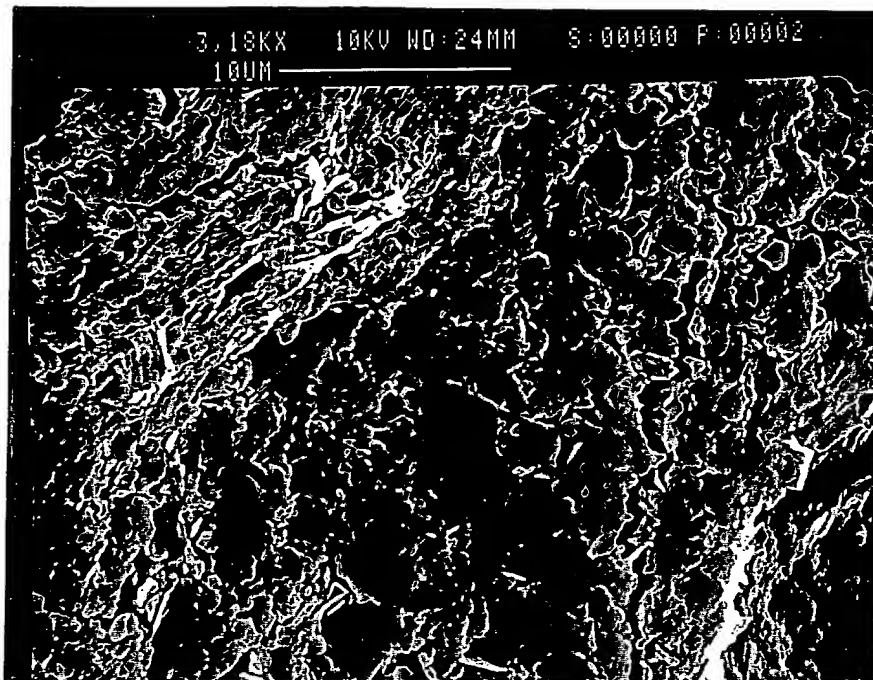
All of these rejections are premised on the disclosure of Bar-Joseph et al. As explained below, due to the deficiencies of Bar-Joseph et al, the claims are indeed unobvious and therefore patentable over the cited art.

In particular, Bar-Joseph et al relates to spraying citrus plants with a suspension of kaolin to reduce aphid colonization. However, Bar-Joseph et al fails to teach or suggest applying a slurry containing one or more particulate materials selected from calcium carbonate, calcined kaolin and mixtures thereof. While Bar-Joseph et al employs the use of kaolin, this is conventional or hydrous kaolin. Calcined kaolin is different (in structure and properties) from hydrous kaolin in that calcined kaolin is a heat treated kaolin. Calcining involves a heat treatment which includes one or more of expelling volatile components, oxide formation, changes in the molecular structure (phase changes) and/or other chemical and/or physical changes.

The differences between hydrous kaolin and calcined kaolin are substantial enough that one does not teach or suggest the other. One skilled in the art would NOT employ one for the other. The physical structure of hydrous kaolin is characterized as plate-like. Consequently, when a slurry of hydrous kaolin is sprayed, a film having gas barrier properties results. This is because the plate-like hydrous kaolin structures form a well integrated film that is gas impermeable preventing gas exchange at the stomates of a plant (inhibiting stomatal activity).

The physical structure of calcined kaolin is characterized as popcorn-like. When a slurry of calcined kaolin is sprayed, a film that having gas permeability results. This is because the popcorn-like calcined kaolin structures form a porous film. The differences in the structures can be compared using the following two pictures.





The top picture shows a film resulting from hydrous kaolin on apple leaves. The bottom picture shows a film resulting from calcined kaolin on apple leaves. Both pictures were taken with a Scanning Electron Microscope. The top picture was made using an aqueous containing slurry 3% hydrous kaolin and 0.125% of Ninex® MT-603 spreader sticker. The bottom picture was made using an aqueous containing slurry 3% calcined kaolin and 0.125% of Ninex® MT-603 spreader sticker. The porous nature of the calcined kaolin film permit the plant to transpire gases and thus continue photosynthesis. In this connection, the claims specify that the specifically defined slurry as applied allows for the exchange of gases on the surface of said substrate.

Bar-Joseph et al fails to teach or suggest a membrane that allows for the exchange of gases on the surface of a substrate while minimizing arthropod infestation. The pictures make clear that one skilled in the art would not have been motivated by Bar-Joseph et al to practice the claimed invention.

The additional cited art does not cure the deficiencies of Bar-Joseph et al highlighted above. Marotta relates to hydrophobic siliceous materials that are dusted or brushed on surfaces over which insects crawl. Marotta mentions that naturally occurring kaolin (hydrous kaolin) is a hydrophobic siliceous material.

Marotta fails to cure the deficiencies of Bar-Joseph et al. For example, Marotta clearly fails to teach or suggest applying a slurry as Marotta teaches applying a dry material (dust). Marotta fails to disclose applying calcined kaolins, hydrophobic calcined kaolins, hydrophobic calcium carbonates and calcium carbonates. Marotta fails to disclose applying a material to the surface of fruits, vegetables, trees, flowers, grasses, roots and landscape and ornamental plants. Therefore, Marotta does not cure the fatal deficiencies of Bar-Joseph et al.

VRBA relates to insect control compositions for application to plant surfaces. However, VRBA fails to disclose applying calcined kaolins, hydrophobic calcined

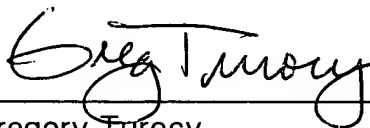
kaolins, hydrophobic calcium carbonates and calcium carbonates. Therefore, VRBA does not cure the fatal deficiencies of Bar-Joseph et al.

Claims 1-20 have been provisionally rejected under the judicially created doctrine of obviousness type double patenting over copending application serial number 08/972,648. Enclosed herewith is a Terminal Disclaimer obviating this rejection.

Should the Examiner believe that a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

In the event any fees are due in connection with the filing of this document, the Commissioner is authorized to charge those fees to our Deposit Account No. 18-0988.

Respectfully submitted,
RENNER, OTTO, BOISSELLE & SKLAR, P.L.L.



Gregory Turocy
Reg. No. 36,952

1621 Euclid Avenue
Nineteenth Floor
Cleveland, Ohio 44115-2191
Telephone (216) 621-1113
Facsimile (216) 621-6165
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